

Name _____ Date _____



Field Results Analysis

Working as a team, you will present your section of the creek to other teams in your class.

Use this activity sheet to create a “Summary Sheet” from field data and a “Creek Map” drawing to be used as visual aids in your presentation.

Directions for Summary Sheet

Create a “Summary Sheet” listing the most relevant and interesting information that your entire team was able to collect on your section of the creek. Complete these activity sheets and transfer this information to a large sheet of paper provided by your teacher.

- **Site information**

What was the most interesting or important information recorded on the “Site Information” sheet of your journals?

Was the creek appearance related to the health of the creek?

What animals do you think depend on this creek based on animal tracks recorded in your journal?

Activity Sheet



Name _____ Date _____

Activity Sheet

Field Results Analysis (continued)

- **Creek Observations**

Which land use in this watershed do you believe has the most impact on your creek?

- **Tests on Water Samples**

Temperature

Record temperature readings from all field journals below:
(convert to Celsius if necessary by using $C = F - 32 \times 5/9$)

What was your average temperature?

pH

Record pH readings from all field journals below:

What was your average pH reading?



Name _____ Date _____



Field Results Analysis (continued)

Dissolved oxygen

Record dissolved oxygen readings from all field journals below:

What was your average dissolved oxygen reading?

Activity Sheet

Using your average temperature and average dissolved oxygen, determine the percent saturation:

% Saturation			
Temperature (C)	Dissolved Oxygen		
	0 ppm	4 ppm	8 ppm
2	0	29	58
4	0	31	62
6	0	32	64
8	0	34	68
10	0	35	71
12	0	37	74
14	0	39	78
16	0	41	81
18	0	42	84
20	0	44	88
22	0	46	92
24	0	48	95
26	0	49	99
28	0	51	102
30	0	53	106



Name _____ Date _____

Activity Sheet

Field Results Analysis (continued)

- **Creek Testing**

Channel Width

Record the channel width:

Water Depth

Record the three depth readings:

What was the average depth?

Float Method to Determine Velocity

Use the following equation to determine the average velocity for each orientation, and overall.

length of rope / time to travel distance = average velocity rate

right:

center:

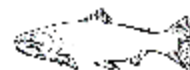
left:

Record the average of all velocities:

Discharge

Use the following equation to determine the discharge, or flow rate, for the creek:

channel width X average of depths X average of velocities =
measurement/time (example: cubic feet per second)



Field Results Analysis

(continued)

• Aquatic Organism Survey

Look back to page 86 in your field journal. Count the total number of types of organisms for each column (NOTE: 15 leeches = 1 type of organism.) Use that number to calculate an index value and the Water Quality Rating for your creek.

Water Quality Rating		
Tolerate Pollution	Tolerate Some Pollution	Do Not Tolerate Pollution
<i>can be found in fairly polluted water</i>	<i>less sensitive to pollution, but they cannot live in very polluted water</i>	<i>highly sensitive to pollution</i>
___ # of types from field journal, multiplied by 1 = ___ index value	___ # of types from field journal, multiplied by 2 = ___ index value	___ # of types from field journal, multiplied by 3 = ___ index value
Sum of all index values= _____ Water Quality Rating		
___ Excellent (>22) ___ Good (17-22) ___ Fair (11-16) ___ Poor (<11)		

Directions for Creek Drawing

Re-create your section of the creek onto a large piece of paper using pens and colored markers. Try to use the entire sheet of paper, right up to the edge. When done, your drawing will be taped next to other team drawings representing other sections of the creek. Now you have an entire representation of the entire length your class studied!